Pam
Lepers

they banished a ghost

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the story of three Christian doctors in the world campaign against Hansen's disease (leprosy)

published by American Leprosy Missions, Inc.

a ghost with a bell

In literature of medieval Europe a victim of the disease then called leprosy is pictured as a frightening, shrouded creature skulking through towns and over highways like a ghost, ringing a bell to warn others of his coming. It was a true picture of that time, for the hapless sufferer was shunned and outcast, denied the fellowship of others, starved, beaten and killed, all because of the fantastic myths which have surrounded this disease since the beginning of recorded history.

Most of us today know that Hansen's disease is not a curse of the gods; that it is a curable illness of low infectivity, contracted for the most part in childhood after prolonged contact with an active case.

In this long and slow progress toward the light, medical missionaries played an important part. Outstanding among them are three who are living and working today, one in Thailand, one in India, and one who makes the world his headquarters. In their separate fields of Hansen's disease therapy, they have successfully banished the old "ghost with a bell."

We present their story here because even in this world of enlightenment and progress and revolutionary change, especially in medical science, there are people still haunted by the ghosts of ancient superstitions and myths.

miracle of

In a foreign mission hospital not long ago a dark, pretty lass of six years peeked bashfully up at a strange white doctor who was visiting the clinic. He gravely shook her small brown hand, touched her satin smooth cheek and said with just a hint of a Scottish burr:

"My, what a pretty little face we have!"

She smiled back at him, totally unaware of the part he had played in giving her that pretty face and in preventing the ugly scars she saw on many of the older women in the hospital.

For the clinic visitor was world-traveling leprosy expert, Dr. Robert G. Cochrane, technical medical advisor for American Leprosy Missions. And until this former medical missionary set out to find a drug inexpensive enough for widespread use, thousands of children with Hansen's disease who could have been saved with the sulfones were doomed to disfigurement and crippling because of the high cost and resulting scarcity of the early compounds.

His basic motivation in that search can be summed up in the

the sulfones

lines of a poem, "A Physician's Prayer," on the wall of his London office.

> "Give skill to my hands,
> Clear vision to my mind,
> Kindness and sympathy to my heart.
> Give singleness of purpose,
> Strength to lift at least a part of the
> burden of my suffering fellow men,
> And a true realization of the privilege that is mine."

Since 1924 when Dr. Cochrane was a young man of twenty-five there has been no question of his singleness of purpose. Born in China of Scottish parents, his boyhood was steeped in talk of medicine and missions. His father was the famed Dr. Thomas Cochrane, medical missionary who founded the Union Medical College in Peking. And all the men in his family as far back as he can remember had been physicians.

After qualifying in medicine, he went to India in 1924 for The

Mission to Lepers, world-wide organization with headquarters in London, and parent of American Leprosy Missions.

There at the Purulia Leprosy Home, the missionary who was later to become one of the world's foremost authorities on Hansen's disease, knew he had found his life's work.

India, where there are still some 2,000,000 victims of Hansen's disease, has always been a hot bed of this scourge. And medical missionaries had long been aware of the seriousness of the problem. From their early beginnings in the 19th century, mission hospitals were besieged with sufferers who had become outcasts and beggars because of their disease.

The missionaries gave these afflicted people a home, kindly care, medical treatment, and that best of all medicines, hope. Their outstanding campaign against Hansen's disease in India is one of the stellar achievements of the world missionary movement. And no man had a bigger part in it than Dr. Cochrane.

From Purulia he went on to other hospitals in India, studying, treating, examining, constantly on the lookout for better ways to treat this ancient and stubborn illness.

He was sent to various parts of the world by The Mission to Lepers and later on by the World Health Organization of the United Nations to make surveys of control methods in other countries. What he saw in his world tours only deepened his early conviction that Hansen's disease must be treated as a part of the total public health problem in every country. And in the India of half a million villages, public health is rural health.

In 1944 when Cochrane was appointed director of the Christian Medical College at Vellore in South India, an area of high endemicity, he saw an opportunity to put his theories into practice and give the government a model for rural leprosy control.

Dissatisfied with existing programs for reaching people in the villages who could not come into the city for treatment, the determined Scottish missionary decided to set up a comprehensive plan to control the disease within a village unit.

Three villages off the Gudiyatam roadside were chosen as the locale for Cochrane's rural control unit. With the village of Kavanur as the center, intensive work was begun on leprosy control and treatment, maternity care and child welfare.

Established in 1947, the Kavanur preventive unit still flourishes and has been an important factor in stimulating the Indian government's present plan of leprosy control units.

A man so concerned with rural health problems in India would naturally be equally concerned with finding a remedy cheap enough to make inroads on the tremendous problem of Hansen's disease in that country.

And this Christian physician's concern "to lift at least a part of the burden of my suffering fellow men" prompted Cochrane to begin the drug experiments which paved the way to the present, widespread use of D.D.S. (Diamino-diphenyl-sulfone), now termed by the World Health Organization and the Madrid Leprosy Congress as the drug of choice in Hansen's disease.

During the last decade Hansen's disease therapy has been completely revolutionized by a group of drugs called the sulfones. Until the advent of these drugs the basic treatment was chaulmoogra oil, an ancient remedy used as far back as the fifth century B.C. by the famous Hindu physician Susruta. It was a disagreeable medicine and most doctors were highly dubious about its value. But it was the best they had. Then in the forties, the news of the sulfones burst over the horizons of medical science.

The fascinating history of the sulfones began back in 1908 when two German research workers, Fromm and Whitman, discovered a substance called Diamino-diphenyl-sulfone. It was found too toxic for human use, however, and lay on the laboratory shelves for many years.

In 1938, a British pharmaceutical firm made a derivative of it called Sulphetrone which was tried in tuberculosis infections. But this work was suspended during World War II. In 1941 some American doctors made another derivative of D.D.S. called Promin. Though it was effective in tuberculosis infection in animals; it did not prove to be successful in human tuberculosis.

Because of the great similarity between tuberculosis and Hansen's disease doctors at the United States Public Health Service Hospital in Carville were always on the lookout for any new T.B. drug. They tried Promin. And their findings made medical history. It was effective against Hansen's disease.

To Cochrane in India, however, faced with a problem of stag-

D. D. S., new drug first tested by Cochrane, is inexpensive and easy to administer either orally or by injection. By its use many are being discharged symptom-free from our sanatoria, and children saved from disfigurement and crippling.

gering proportions in the poverty-stricken Indian villages, Promin was no solution. It was far too expensive for widespread use and unless its cost and the cost of the other derivatives, Diasone and Sulphetrone, could be reduced, Cochrane realized that it would be impossible to extend this new and dramatic treatment to all the needy cases.

He had long had a hunch that the parent drug needn't be as toxic as the early experimenters had found. And at Vellore and the Lady Willingdon Sanatorium in Chingleput, in 1947 he began injecting the drug in an oily suspension.

Using very small dosages Cochrane found that D.D.S. was far less toxic than had been supposed and that it had "great promise as the most effective and cheapest remedy yet discovered."

Two years later in Africa another medical missionary, Dr. John Lowe, tested the parent drug in tablet form and came to pretty much the same conclusions.

At last the world had a remedy for Hansen's disease which was cheap (about one-fiftieth the cost of the first derivative, Promin); easy to administer (either by injection or by mouth) and non-toxic (if care is exercised).

Because of the Cochrane and Lowe experiments, D.D.S. has become generally accepted as the basic medicine in Hansen's disease and is used now in most hospitals over the world. And thousands of victims in villages and plains and jungles, hearing of the new "magic" medicine are flocking to hospitals and mission clinics to be treated.

Characteristically, Cochrane, who was the first to experiment with D.D.S., was also the first to warn against its misuse.

"Too many doctors, and for that matter, too many missionaries," he says in his blunt fashion, "feel that all they need to do now is to give away free D.D.S. pills.

"Sulfone therapy, as effective as it is, does not by itself mean the end of leprosy," he points out. "Not only is there a lack of response to the sulfones in some severe cases; there are often other dangers besides toxicity. Because the clinical response to the drugs is very fast while the bacteriological response is slow, only the microscope can tell whether the patient is free of bacilli.

"This necessitates far more caution than is exercised in many

treatment centers to guard against relapses. It also calls for better training of technicians and higher discharge standards."

Sometimes the outspoken Scot gets carried away by his strong feelings on this subject as he did recently with a friend who was in charge of a large government treatment center. Enthusiastically giving out D.D.S. pills far and wide, his well-meaning doctor friend wanted advice from Cochrane on future policy, and asked: "Where do we go from here?"

Before he could stop himself, Cochrane responded wryly, "Into the land of nowhere, baby dear!"

One reason Cochrane becomes impatient at this reliance on drugs alone is that it leads to neglect of what he considers the basic problem of leprosy: prevention of the disease in children and detection and treatment of early cases.

"The key to leprosy is the child," he points out again and again in lectures in classrooms, conferences, courses for laymen and in his writings.

"The more successful our efforts at combatting child leprosy, the greater our contribution toward freeing the world from leprosy."

Hansen's disease is not hereditary. No mother can pass it on to her unborn child. But it has been established that children are most susceptible, and that by far the great majority of cases are acquired in early childhood.

It has also been established that close contact with an infective case is an important factor in contracting the disease.

"Hence is it perfectly clear," Cochrane says, "that one of our major tasks is to prevent children from coming into contact with open cases of the disease."

When asked how missions can possibly do the job of surveying and detecting all early cases in an endemic area, Cochrane says flatly that it is impossible.

"That is a job for governments, not missions," he tells missionary doctors and officials, "just as it is the job of governments to carry out mass treatment of patients in their own countries. Our job is to stimulate governments, to create pilot centers as an example of good leprosy work. We are pioneers. We blaze the trail; we do not macadamize the road."

Cochrane is himself a blazer of trails and stimulator of governments *par excellence.* While at Vellore he received an urgent call from the Madras government to organize a sadly needed leprosy program. As a result of his efforts the government adopted an enlightened and progressive attitude toward the problem and amended its Public Health Act to permit treatment of leprosy cases as inpatients in general hospitals.

The British government, too, has used Cochrane's expert knowledge. Since 1951, when he returned to England to become medical secretary for the British Empire Leprosy Relief Association, he has been leprosy advisor to the government's Ministry of Health.

The roving doctor had long wanted to settle down in one spot for a while and for this reason welcomed his new assignment in London. He is devoted to his lovely, quiet spoken wife, who seldom had the chance to travel with him, and to his children, two boys, both physicians, and a daughter now in nurse's training.

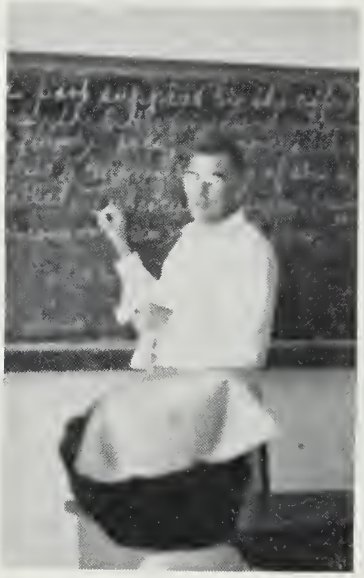
This peaceful existence came to end in 1953 because of Cochrane's deep and unshakeable commitment to Christian missions. Once more he started on his travels, this time as technical medical advisor for American Leprosy Missions.

One of his major tasks has been to counsel and teach the medical, nursing and administrative personnel in settlements and hospitals supported by American Leprosy Missions. He has held teaching conferences in both Africa and Asia and in this country for missionaries on furlough, and has consulted with government officials in many lands, seeking ways to integrate the mission program into a comprehensive government plan.

To governments he stresses the primacy of their responsibilities. To mission officials he stresses the importance of challenging governments by the excellence of their work.

Self-assured, yet deeply humble in the "true realization of the privilege that is mine," Cochrane advises:

"The time for just caring for the poor 'leper' is past. The good Lord, having given us the knowledge, expects much more than this, and with governments increasingly alive to the situation, the challenge of Christ should go through us: 'What have ye done more than these?'"



go ye forth

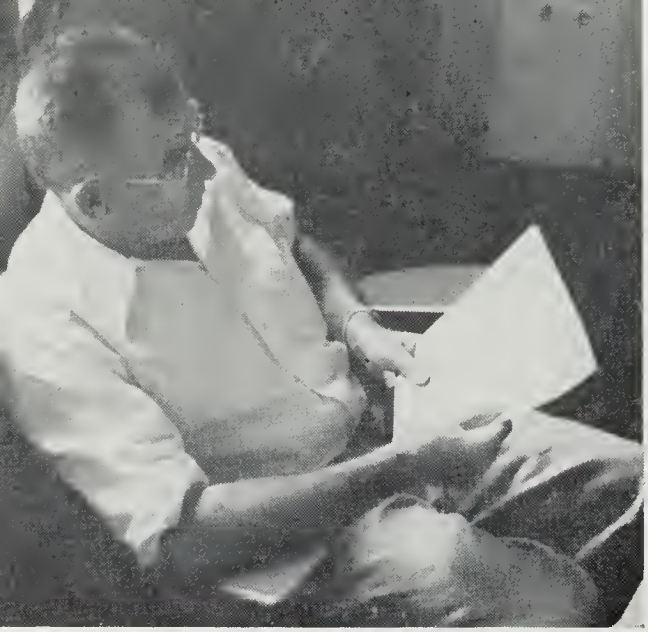
As word of the new drugs spread to the remote corners of the world and victims of Hansen's disease came out of virtual hiding to be treated, missionary doctors were faced with the problem of extending their limited treatment facilities. Traditional colony-institutions obviously could not meet these increased needs.

Probably no one man is contributing more to the solution of this crucial problem in the highly endemic area of Southeast Asia than a New England-born, former champion long-distance runner and sometime snake collector.

Graying, middle-aging, but still youthfully vigorous, Dr. Richard Buker is virtually a one-man Point IV in Thailand. His system of preventive villages for Hansen's disease patients through the "black belt of leprosy" in the northern part of that ancient kingdom has won the admiration of the Thai government, the World Health Organization and H.D. specialists over the world.

And his twice-yearly medical courses, bringing workers of many denominations together in a great cooperative effort, has attracted wide attention and government recognition.

Headquarters for Dr. Buker's unique prevention and control set-up is the Presbyterian, U.S.A., hospital-community on an



Learning by doing. Under doctor's guidance, students give injections, treat ulcers and perform minor surgery. It's not as difficult as it looks.

Missionary students in Dr. Buker's course in Hansen's disease first read latest medical texts and take copious notes in lecture hall. They then examine patients for symptoms, impressed with importance of making correct diagnoses.

Final days are spent inspecting preventive villages outside hospital. Budding experts see in operation kind of work they will establish in other areas.

Villages are self-supporting. And as in Chiengmai settlement, patients work at their own trades. Musicians supply entertainment for occasional gala evenings.

island in the Maping River seven miles outside Chiengmai.

The origin of Hansen's disease in Thailand is unclear, though some experts believe it came with the Thai people during several centuries of migration from the regions south of the Yangtze to the heart of the Indo Chinese peninsula which is now Thailand.

From the time of their arrival in the 13th century A.D. until the close of the 19th century, there was no help for sufferers of the ancient malady. In 1893 Presbyterian missionaries in Chiengmai began to give out food, clothing and medicines to wandering beggars with the disease.

By 1908 the problem was so serious Dr. James W. McKean, American Presbyterian missionary, asked his friend the governor of the northern province to build a refuge for the wandering outcasts who daily besieged the mission gates for help. He was given a deserted island, upon whose neglected and tangled jungle terrain bamboo huts were built for eight patients.

Today the McKean Leprosy Home is a thriving community with well-kept streets, gleaming white buildings of traditional Siamese architecture and charming white frame cottages to house the 500 or more happy, contented patients.

Siam was only an exotic name to the young Buker twin who attended Bates College in Maine back in the early 20's. And leprosy only a Biblical word associated with horror and dread.

Together with his twin brother Raymond, young Dick was all taken up with athletics. Though Raymond was better known as a runner (he later was the only American to place in the 1500 meter race during the Olympics of 1924), Dick did manage to tie him once for the Intercollegiate championship at Bates.

The twins had always planned to be ministers, but Dick feared his speaking voice was not strong enough and decided to take up medicine. However, when it came time to decide how best to use their professions in the service of the Lord, they were again of one mind. In 1924, both Raymond and Dick Buker and their wives were assigned by the American Baptist Foreign Mission Society to Burma to do general missionary work.

The New England twins took to Burma as if this exotic land were their natural habitat. It was there that Dick started his unusual snake collection—a hobby that proved to be of great

value to allied soldiers during the war. At the request of the Surgeon General's Office, Dr. Buker prepared a special booklet on the poisonous snakes of Burma, which served as a guide to British and American G.I.'s entering that area.

Entering into his medical mission work with characteristic zeal, Dick Buker soon found there were heartbreaking frustrations in his ministry.

"From the day I stepped into Kentung," he recalls, "I felt I was out there as an ambassador of the King of Love. And yet there was a very troubling circumstance. Week after week, month after month, one man kept coming to my mission. It wasn't necessary for me to make a diagnosis. I had been in Burma long enough to recognize the symptoms of leprosy. But I was not equipped to care for him. I had to turn him away."

For two years Dr. Buker turned away similar miserable souls, and then could stand it no longer. One day a man appeared clad in rags. He had traveled six days by foot with three small children, for he'd had no place to leave them.

"Why did you come?" asked Dr. Buker.

"To be treated for my sickness," he replied.

"You know I am not supposed to take leprosy patients. There are no facilities here."

"But this is a Christian hospital," the man replied and stood there looking up at the doctor with such childlike faith that Buker resolved to take care of him somehow.

And that was the beginning of a program which was to spread throughout the State of Kentung. It was a program which included the establishment of a large colony (later taken over by the government), numerous out-patient clinics and nine small communities which Buker dubbed preventive villages.

Just across the border in Thailand, Dr. Hugh McLean, son of Chiengmai's founder, was also busy setting up out-patient clinics around Chiengmai. According to Buker, the clinic idea failed in Burma and Thailand partly because patients had to travel great distances and there was no way to induce regular attendance.

By the time Baptist missionary Buker was called by American Leprosy Missions to take over Chiengmai's Presbyterian hospital in 1951, he was completely sold on the preventive village idea.

"It offers a way to segregate those suffering from leprosy," he points out, "without depriving them of the satisfactions of living a normal family life in their own community.

"Also the cost is about one-tenth as much as a traditional mission colony."

Starting with the few out-patient clinics which still existed around Chiengmai, the tireless missionary and his wife Minola, a registered nurse, set out to turn these failing clinics into economically sound village communities. Rice land was obtained, pigs, chickens and buffalo furnished, tools and seeds for gardening supplied and dispensaries erected.

Today there are 22 self-supporting villages with a total of more than 2,000 inhabitants from five to a hundred miles outside Chiengmai. Each village has a technician trained at Chiengmai hospital, a church deacon and elder, all of whom come into Chiengmai once a year for religious and medical instruction.

About once a month the doctor makes his regular inspection tour of the villages in his jeep, though some are so remote and inaccessible they can be reached only on foot.

Always prepared for any emergency, the good doctor seldom fails to encounter one. On a recent trip, during a routine examination of patients at a village dispensary, he discovered a ruptured appendix with an abscess well formed. Because the jeep was too small to carry the patient to the hospital, he had to wait until a small van could get out from Chiengmai the next day. There was no road to the village so the driver and the doctor went by foot to fetch the patient, who would then have to be transported to the van by carriers.

"On reaching the village," Buker recalls, "we found the place deserted. All the men had left to pay their taxes. More precious hours were consumed hiring an ox cart to take the poor man to the ambulance. But we eventually got him in to the hospital and successfully operated on the abscess."

As new mission groups of different denominations came into North Thailand to evangelize, more and more areas rife with Hansen's disease were discovered. It soon became commonplace for the harried missionaries who knew nothing about the disease to come to Buker for advice on setting up villages.

Realizing the inadequacy of such a plan without medical supervision, Buker established the now widely known leprosy courses for missionaries in Southeast Asia. Workers of all denominations from Thailand, Indo-China, Burma and Malaya have attended these courses and returned to set up programs in their own mission fields. Thai students and representatives of government and public agencies have also attended.

One nurse who has gone several times to Buker's "school" describes a typical class day.

"At nine we met in his office for a lecture. The note taking was fast and the questions and discussion often furious."

"Anytime from ten on we proceeded to the infirmary and put into practice what we had learned. Dr. Buker lined up some of the patients who had sores on their feet and showed us how to cut the flesh around the sore so it could heal.

"Then he handed me a knife and told me to go ahead. I almost fainted, but found I could do it very well with his help.

"One class member almost cut too deep and Dr. Buker let out a roar that frightened the patient."

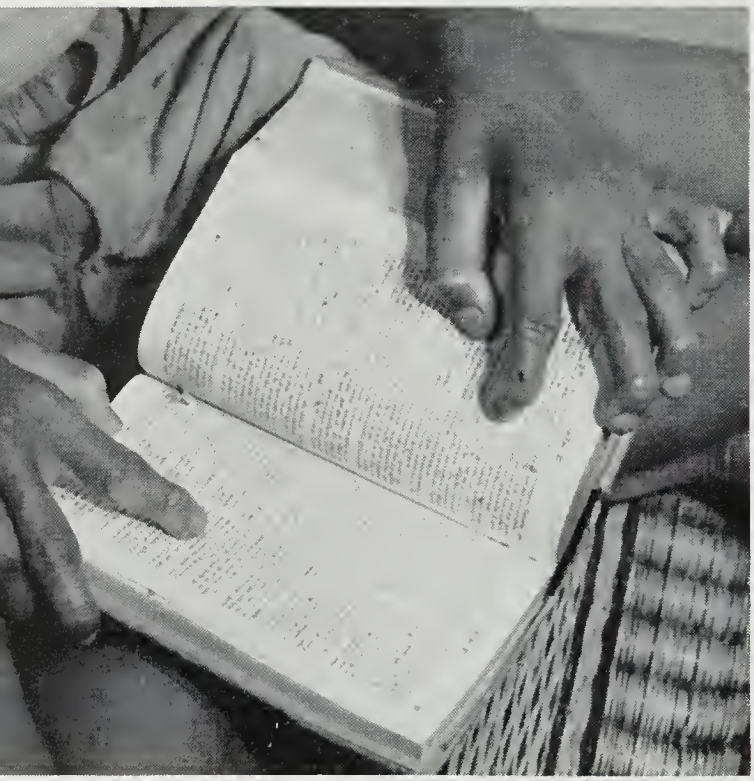
"Then we were instructed in the careful examination of patients, made diagnoses and charted the actual condition of leprosy in a given patient.

"Sometimes in the afternoons the doctor would let us off to rush into the city in the hospital van for a bit of shopping or dental work. But he wouldn't let us ride around the colony as he wanted to get us hardened up for the week-end field tour of the preventive villages. And we certainly needed it, for the trip was really rugged."

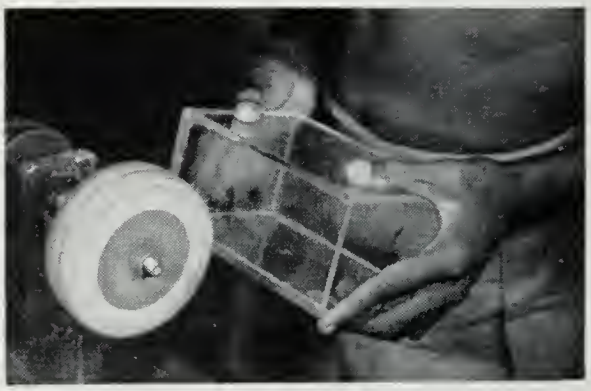
The far-flung results of the former Down-Easter's ministry to the Far Easterners may be seen in his latest report of progress.

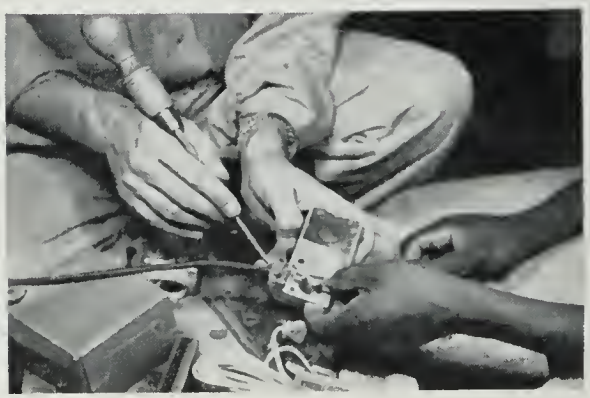
"Five years ago there were two missionary couples of us working in leprosy work here in Thailand. Today there are over 30. At that time there were about 1700 leprosy cases under treatment in mission-connected centers. Today there are pretty near 10,000.

"Surely God has answered our prayers for laborers to enter the harvest fields, And as a result, many thousands have heard the gospel who never would have heard it, and hundreds have been brought to Christ."



the work





of thine hand

"When Jesus Christ healed, the one so healed became a whole man. And always remember this. So long as we are unable through lack of facilities, lack of knowledge, or lack of skill, to restore cases of leprosy to a measure of normal health and usefulness, we are falling short of Christ's complete command."

Dr. Robert G. Cochrane was speaking to a young Britisher in a sanatorium for Hansen's disease in South India.

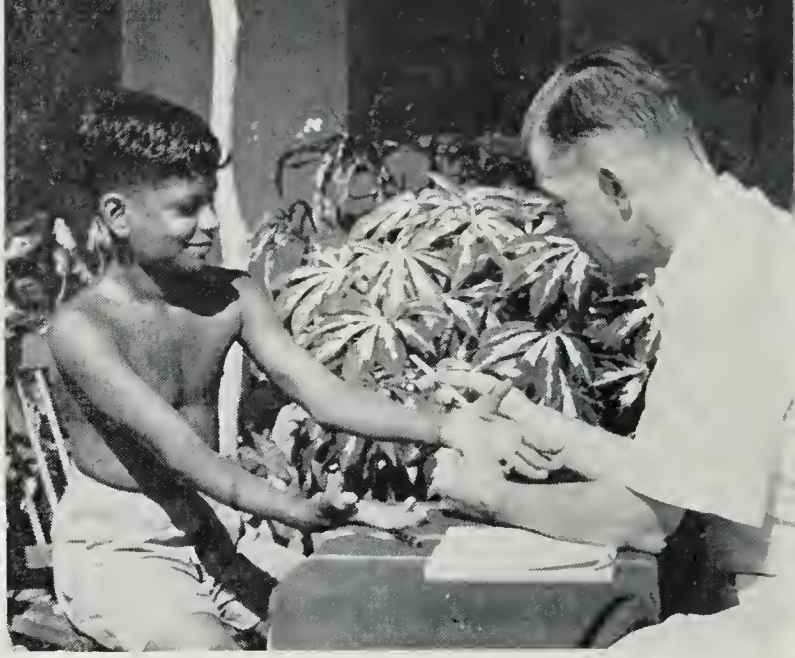
The young man, newly arrived in India, listened with sober intensity to his friend and mentor and then glanced involuntarily down at his own hands, long, supple and dextrous, the hands of a skilled surgeon.

—What would he be without them? he mused. Certainly not a whole man.

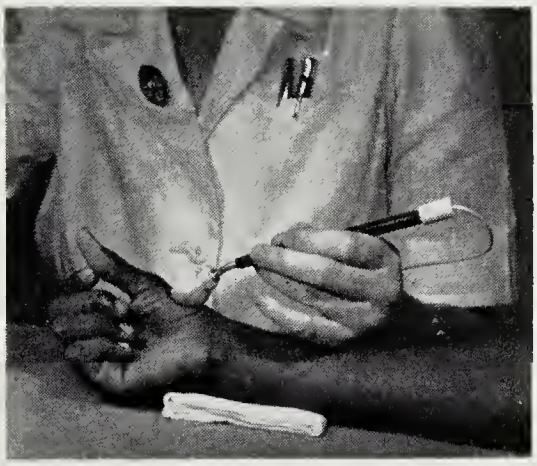
—And what of the patients he had just seen in this hospital, most of them with crippled, deformed and useless hands?

—What kind of men were they without hands to do a days work? Certainly not whole men. Even when they were cured of the disease which had crippled them and kept them apart from society, they were still unable to return to that society without the means to earn a living, without their self respect.

These few minutes in the Lady Willingdon Sanatorium marked the turning point in Dr. Paul Brand's life. And they marked the upswing of medical science's long campaign to heal the ravages of one of the most crippling diseases in man's history.



Dr. Brand examines crippled hand of young newcomer to Neeva Jeeve Nilyam, *Place of New Life, where the lad will soon acquire a new pair of hands.*



Wax baths are used before and after surgery to keep hands supple. On staff is a skilled physiotherapist, shown here determining extent of damage in patient's hand.

During his stay at center, young patient finds happiness through comradeship with others, healthful and remunerative outdoor work.

After final operation, lad's hands are almost as good as new. With specially designed tools he has learned to make toys, and here shows finished product to Brand and assistant.

Brand had scarcely started on his career as an orthopedic surgeon in London when Dr. Cochrane persuaded him to join the staff of Vellore Medical College. The young doctor responded to the call though it meant uprooting his family, breaking into his own promising career and that of his ophthalmologist wife. But it meant also the fulfillment of his childhood dream of becoming a missionary like his parents.

After Cochrane showed his young friend what Hansen's disease did to its victims, Brand became obsessed with the idea of doing something about this appalling condition.

The words ". . . we are falling short of His complete command" struck deeply, for this sensitively religious doctor desired above all else to use his best talents to the glory of His Master.

Back at Vellore Brand read everything he could get his hands on about Hansen's disease and its crippling effects.

He discovered that more than half of its victims suffered paralysis of the hands which drew them up into a claw-like position, rendering them completely useless.

He also discovered that operations he had performed on polio-crippled and war-mangled hands in London hospitals were not used in Hansen's disease because doctors believed the paralysis was indefinitely progressive, and that healthy muscles used for transplantation might later become paralyzed.

Setting out to disprove this theory, he and his staff spent months testing hundreds of paralyzed hands. He became convinced that one set of arm muscles almost never was affected and could be transplanted successfully to do the work of the paralyzed muscles.

For his first patient, he selected a defeated, hopeless young Hindu named Krishnamurthy, whose disease had been arrested, but whose hands were completely useless.

"Do what you wish with my hands," the lad told Brand with complete indifference. "They are no good to me this way."

Many operations later, the young man spoke with a new note in his voice as the bandages came off.

"My fingers are straight, Doctor Sahib," he exclaimed joyfully. "I can move them . . . I can move my fingers!"

Krishnamurthy's heart was also moved during the long period

of surgery as he saw the miracles that occurred through the transforming love of the God these Christian doctors served. And he became truly a new man, taking the name John to symbolize his new life in Christ.

John's operation was only the beginning of many, the great majority of them successful. But the young Doctor Sahib soon realized operations were not enough to make whole men. Too many of the patients he had sent out of the hospital with a justifiable glow of pride at his handiwork returned and begged to be readmitted.

"But why?" the bewildered surgeon asked one bitter lad who held out his slender hands for the doctor to inspect.

"These hands you gave me," he almost spit the words out. What good are they?"

"Please take me back," he implored. "Let me live here. People outside don't want me. I have no trade and no one will apprentice me because they know I had the sickness and are afraid."

Brand was deeply moved. He had still fallen short of his Lord's command. But he knew now what he must do. He would build a center where his patients could be prepared to live in the outside world. He would provide a period of transition and rehabilitation. And they would learn trades suited to the limited capacities of their new hands. For though he could make fingers strong and straight, he could not replace the nerve sensation which had been destroyed in them.

That dream center is now a thriving village community for both pre-and post-operative cases. Those who are to undergo surgery are given hand-exercises, warm wax baths, massage and electro-therapy by skilled physiotherapist Ruth Thomas. Those who've already got their new hands also take exercises to keep them supple, learn ways of protecting them from injuries, and get job training that will enable them to become self-supporting.

In the Tamil language the center is known as *Neeva Jeeve Nilyam,* the Place of New Life. And that is precisely what it is for Indians of all castes and creeds. Brahmins, untouchables, Hindus, Christians, despite differences in customs and beliefs, live together in harmony and share equally in all the menial

tasks of the community — cleaning the compound, carrying water, hoeing, spading, feeding the chickens, pruning the trees, carrying beds out to air.

Much is done outside in the grassy spaces between simple, white, thatched-roof buildings surrounded by trees and flame-colored flowers. Around a long table by the occupational therapy hut is a group of white-garbed men and boys busily doing hand exercises. Over in the small field, others are engaged in gardening, taking special care not to bruise their hands.

In the nearby machine shop tools specially designed for easy handling are used to make all kinds of saleable articles which are later sold in leading Madras department stores. Especially popular are bright-colored toys, puzzle maps, Chinese checker boards. Proceeds of the sales go to the patients who put aside a certain amount for the day they are ready to leave the center and start out on their own.

Because the ability to make a living is in large part dependent upon community attitudes, the New Life Center staff, concurrently with its rehabilitation and therapeutic program, carries on an educational campaign in the nearby local communities, where discharged patients will eventually settle down to live and work. They have had remarkable success in dispelling superstitions once held about Hansen's disease, and in assuring the villagers they have nothing to fear from discharged patients.

Already other mission doctors, their imaginations fired by Brand's remarkable surgery and creative rehabilitative methods, have instituted similar procedures.

And the new Schieffelin Research Sanatorium in nearby Karigiri, joint project of American Leprosy Missions, The Mission to Lepers and Vellore has as one of its major projects a study of ways and means of making these methods even more effective.

"If we can multiply centers of this kind, with Christian foundations," Brand maintains, "we can teach leprosy patients all over the world a new pattern of living and give them a new dignity. We can teach the world, too, a new respect for the courage and abilities of this too often despised and wronged multitude of sufferers."

cooperation is the key

This was a story of three men whose revolutionary contributions to the hundred-year-old cooperative ministry to the victims of a devastating disease could mean the end of that disease.

Through their efforts, and the efforts of hundreds of other dedicated missionary doctors working tirelessly in every part of the world, we now have the medicines, effective means of distributing them, the surgical skills and new methods of rehabilitation to make whole men of the approximately 10,000,000 victims of Hansen's disease.

It is a task we cannot perform alone. It can be accomplished only by governments, public agencies and missions working together in a great cooperative effort.

Medical missionaries, motivated by the Christian gospel, have led the way in this campaign, and with the help of Christian church people everywhere, must continue to be trail-blazers in the final steps to eliminate completely this centuries-old affliction, and to banish forever the ancient "ghost with a bell."

In cooperation with 62 denominational and interdenominational mission boards. American Leprosy Missions aids 156 Hansen's disease settlements, hospitals, clinics and villages in 32 countries.

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